

ISSUED BY THE
*ASSOCIATION FOR THE ADVANCEMENT OF MEDICINE
BY RESEARCH.*

VIVISECTION:
WHAT GOOD HAS IT DONE?

A SPEECH DELIVERED BY

G. M. HUMPHRY, M.D., F.R.S.

PROFESSOR OF ANATOMY AND PHYSIOLOGY IN THE UNIVERSITY OF CAMBRIDGE.

*At the Forty-ninth Annual Meeting of the British Medical Association,
August, 1881.*

LONDON :

J. W. KOLCKMANN, 2, LANGHAM PLACE, W.

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VIVISECTION :

WHAT GOOD HAS IT DONE?

At a numerously attended General Meeting of Members, held in the Town Hall, Ryde, on Thursday, August 11th, 1881, BENJAMIN BARROW, Esq., F.R.C.S., President, in the Chair, Professor HUMPHRY, of Cambridge, moved :—

“That this Association desires to express its deep sense of the importance of Vivisection to the advancement of Medical Science, and the belief that the further prohibition of it would be attended with serious injury to the community, by preventing investigations which are calculated to promote the better knowledge and the better treatment of disease in animals as well as in man.”

He spoke as follows : Before venturing to propose this resolution, I thought long and seriously upon the subject. I mentioned it to a considerable number of the other members of the Association ; and they all, every one to whom I spoke, agreed with me that, whereas there is so much of misrepresentation and exaggeration, to say the least of it, placed before the public on this subject, which is tending to bring the minds of many persons, and, I am sorry to say, of our legislators, to wrong opinions on the matter, it was the duty of us, as members of the profession and of the Association, who know what is actually done, who know what is

the true state of the case, who know the real importance of vivisection to the advancement of our profession, and to the welfare of the community—it was our duty, less, indeed, in the interest of our profession than for the general welfare of the public, that we should speak out and state distinctly what we think. Gentlemen, the first argument raised against vivisection is the question *Cui bono?*—that question which stops so many a good thing—what good has it done? What good can it do to medical science and medical practice? To one who surveys the progress of medical science from its beginning, this question seems to be scarcely possible for persons to ask. Why, the truth is, that almost every advance—I am speaking thoughtfully and carefully—almost every advance in our knowledge of the workings of the human body has been made through vivisection. Our knowledge of the movement of the blood, our knowledge of the mode of action of the heart, and of the other processes by which the circulation of the blood is effected, of the functions of the nervous system, of the functions of the brain, of the several parts of the brain, of the functions of the spinal cord, of the several parts of the spinal cord, of every nerve which passes from the brain and the spinal cord, of the influence of those nerves over every organ and structure of the body, over the heart, over the lungs, over the stomach, over the pulse, over the kidneys, over the bladder, over the skin, over the muscles, is almost entirely due to vivisection. The knowledge of the great processes of secretion, of the functions of nearly every gland, and of nearly every organ, is due almost entirely to vivisection. What has been the influence of this upon medical treatment? Almost all real great advance in medical treatment has been due to better medical knowledge, and that better medical knowledge is greatly due to the advancement of physiology. Take away the knowledge which we have received through vivisection, and conceive what a chaos would be our knowledge of the human body and our ideas of the treatment of the diseases of the human body! You can scarcely conceive to what we should be reduced. Every man—in the whole history of medicine—every man who has made real advances in the knowledge of the workings of the human body, has done it through vivisection. From Galen, and Vesalius, to Harvey, to Hunter, to

Hope, and to Brodie—for this, the most practical of modern surgeons, was a vivisector—every one of these men, and they are few among the many, has made his greatest discoveries through vivisection. And in our own day, the observations which have been made, and which have led to the better treatment of wounds (and conceive the importance of that), and the better methods of securing blood-vessels, have been due, as I know, in great measure to vivisection. The man who first employed the carbolic ligature would never have ventured upon it on the human body, had he not first carefully tried it upon animals. And, with regard to that remarkable and most important discovery which was detailed in the International Medical Congress, by Pasteur, and which I regard as one of the greatest discoveries in medicine, and one which perhaps heralds more good to animals, as well as to man, than any other in our time, it is due to experimentation upon animals, and could not possibly have been made without that; and the result of Pasteur's investigations, which are but of yesterday, is that thousands and tens of thousands of sheep in France are being subjected to that inoculating process which he, by experimentation upon animals, has proved to be efficacious to ward them from some of the most malignant diseases. Let the *cui bono* question never be put again; and, if it be, let every medical man at once be ready with a full and complete answer. Indeed, the advantages derived from experiments on dead matter in the chemist's laboratory might as well be questioned as those derived from experiments which have, from time to time, been made upon the living animal in the laboratories of physiologists and pathologists. Another argument against vivisection is, that it hardens the heart and demoralizes the men who do it, and the students who see it. Now, is this a fact? We are asked for facts as to the advantages of vivisection; let us ask for facts as to the disadvantages. Is this a fact? Are the men who are compelled to or who do inflict pain upon others, men or animals, of harder hearts than the rest of mankind? Are the surgeons who are continually, and were in my early days especially, inflicting long-continued, severe, and horrible pains upon their fellow-creatures—are they and were they of harder hearts than the rest of mankind? And does it produce any hardening effect upon students?

To go a little further, the men who go out with their guns, and leave the partridges and the grouse dying upon the field—do we look upon them as men with hard hearts? The men who go out fishing, who perforate the writhing worm with a hook, who hook the fish and leave it to die on land—do we think of them as men with hard hearts? No, gentlemen, it is the motive that hardens the heart. The springs of charity may be poisoned by a bad motive. If you give a beggar sixpence to get rid of him, that hardens the heart; and if the springs of charity may be poisoned by ill motive, may not the work of vivisection, is not the work of vivisection, hallowed by good motive? Gentlemen, I know something of vivisection. I know that it is practised, whenever it can be so practised, under anæsthesia. Now this is not admitted; but it is a fact. I have never seen an animal tortured when that torture could be prevented. Anæsthetics are almost invariably used, unless there is some special reason against them. I wish this to go forth to the world; and I think the manner in which this is overlooked or not stated is too bad. Anæsthetics, I repeat, are always used when it is possible to use them; and experiments are not performed unless there is a real object for the performance. I know the men to do it, and I know that they are kind-hearted, upright, and honourable men. Let me take one whose name is held up to scorn as a vivisector, Michael Foster. A kinder, truer, better, nobler man does not exist amongst anti-vivisectionists—does not exist in the world, perhaps, than Michael Foster. There is not a man of my acquaintance to whom in the hour of trial and in the hour of need I would look for help with greater confidence, though it might be to his own inconvenience or detriment (and that is a test of good-heartedness), no man to whom I would sooner appeal than to him. There is no man who binds others to him by the simple kindness and unselfishness of his nature more than he. There is no man who would form a better president of a society for the prevention of cruelty to animals than he. This argument is one which has no foundation whatever in fact. It is said by some of the opponents to vivisection that they would not participate in any benefit which resulted from injury to animals. Then, gentlemen, they must forthwith take their departure out of this poor, bad, low world; for it is perfectly clear that they can

never sit down to dinner, that they can never walk abroad without doing injury to some part of the animal world? But is this the principle upon which we act in other things? Why is punishment inflicted on man? Is it to improve the individual? Do we put a man in gaol to improve him? We put him in gaol to benefit the community in one way or another. We execute a man surely not to benefit *him*. To my mind, capital punishment has no foundation to stand upon whatever, save that it prevents crime in others; that is to say, it benefits others. We, therefore, are in the habit of torturing and actually killing the human body simply for the purpose of doing good to others. Well, gentlemen, to my mind, if there be demoralization connected with this matter, it is the demoralization connected with false statements and imperfect knowledge. I do not know that there is anything in the course of my life which has shaken my feelings with regard to the uprightness, the integrity, and, above all, the fairness of Englishmen, so much as the manner in which this subject of vivisection has been paraded before the public, fortified with exaggeration, with carelessness, with false statement. Certainly no demoralization associated with vivisection is at all to be compared with the demoralization and damage which is done to the minds and thoughts of the community by the statements which are made against it. I am glad to hear that a resolution similar to the one I propose was passed at the International General Congress, and I believe it was passed unanimously. It is an absolute necessity that vivisection shall be practised, just as it is necessary that dissection of the human body shall be done. If it be not done in a legitimate way, it will be done in some other way. Is it not, then, far better that what must be done should be done in a recognized manner, by Englishmen, supposing them to be less prone to inflict unnecessary suffering than foreigners? Here let me say that I do not make any imputations against foreigners, but remark that the instances of such inflictions are usually adduced from abroad; perhaps, because they therefore are not easy to disprove? Is it not better that it should be done in England under such reasonable regulations as may be found desirable? and English physiologists are as anxious as any other persons that all unnecessary suffering should be prevented. Is it well that Englishmen should be com-

pelled to go abroad, as is even now in some instances the case, for the purpose of prosecuting that method of research which they know to be essential to the advancement of their science? Vivisection must not be viewed from the side of sentiment only. It must be regarded as a matter upon which the welfare of mankind is eminently dependent—so much so, that we must not allow our feelings for the lower animals to sway our judgment, and must no longer allow the exaggerated statements which are made respecting it to pass unchallenged. Disease is increasing with civilization; and, unless we meet disease—the disease which civilization causes—by the powers which civilization gives us, our people will degenerate; and bear in mind, and let the world bear in mind, that there is no physical degeneration without a moral degeneration. The two go together. The moral and the physical welfare of the people are closely associated with this matter of vivisection; for it is certain that our knowledge of physiology, of pathology, and of the treatment of disease, is to be obtained in the future very largely through it. What we may call dead structure is pretty much worked out; it is living processes that need to be investigated, and living processes can only be investigated while life is going on. Therefore, I do hope that our countrymen will become more reasonable upon this point, and exercise their own reason, and their own thought, and not be led away by the various publications which are issued respecting it, for which, and for the statements that are made in them, I have some difficulty in accounting. I sometimes think that there must be money to be made by them. I have been told there is. However, let our countrymen calmly and dispassionately consider the matter for themselves; and, above all, let our legislators beware how they introduce any additional restrictions, for they will be certain to have a deep, serious, and lasting effect for evil upon the welfare of our country. Surely, if there is any class of men whose opinion upon the subject may be confidently taken, it is that of the practical, hard-working members of this Association—men whose desire and efforts to cure disease are equalled only by their desire and efforts to prevent it; men who can have no sinister or selfish motive in agreeing to the resolution I propose, most of whom have not had, and are not likely to have, anything to do with vivisection. It lies out of the

path of the men who are engaged in the routine of daily practice. But we know what has been accomplished by it already. We can estimate to some extent what it is likely to do for man and for animals in the future, if those who are, often most unselfishly, devoting themselves to the study of physiology and pathology, are allowed a reasonable liberty in employing this fertile method of inquiry. We claim, therefore, that our voice should be heard when we speak in the interests of humanity, and with a knowledge of what is necessary to promote those interests. I therefore propose the resolution, in the full confidence that it will meet with your hearty approval.

The resolution was seconded by W. D. HUSBAND, F.R.C.S., of Bournemouth, and passed with only one dissident.

The following was written by Professor Humphry in reply to some comments upon his speech which appeared in a newspaper.

"I will only refer to the remarks in the letter which relate to Harvey and Bell, as they ought not to pass unnoticed.

"It is scarcely to be believed that any one would venture to assert, respecting the former, that, 'there is no evidence from Harvey's own writings on which to found the statement that his knowledge was obtained through the practice of vivisection' without having some acquaintance with his writings. Yet even a cursory glance at his great work, *On the Movement of the Heart and the Circulation of the Blood*, will show that there are three consecutive chapters containing his observations on the movements of the heart and the blood-vessels in dissected living animals. Those chapters state the various animals upon which he experimented, and the knowledge he obtained through the experiments. Indeed, as Dr. Barclay observes in his recent Harveian oration, Harvey could not have obtained the sure answer to his questions—the proof of his hypothesis—if he had shrunk from observing for himself what was going on in the circulation of living animals. 'At length,' adds Dr. Barclay, using Harvey's own expression, 'by

using greater and daily diligence, by having frequent recourse to vivisections, employing a variety of animals for the purpose, and collecting numerous observations, he thought he had attained to the truth.'

"In like manner, with regard to Bell, your correspondent, for the purpose of refuting an assertion which I did not make, writes, 'Sir Charles Bell—the discoverer of the double function of the spinal nerves—has deprecated the assumption that his discovery was in any way due to vivisection,' yet a reference to his work on the *Nervous System of the Human Body* gives repeated accounts of experiments on living animals; and at page 31 are the following words:—'It was necessary to know, in the first place, whether the phenomena exhibited in injuring the separate roots of the spinal nerves corresponded with those suggested by their anatomy.' He then relates the experiments made for that purpose on a rabbit. He states that on a subsequent occasion he prevented the pain attendant on the dissection by depriving the animal of consciousness by concussion (this would now be accomplished by anæsthetics), and concludes, 'These experiments satisfied me that the different roots and different columns from whence these roots arose were devoted to distinct offices, and that the notions drawn from anatomy were correct.'

"It ought not to be necessary to suggest that the writings of an author should be read before undertaking to refute another from them, especially when the attempted refutation is couched in rather strong and positive terms.

"The question at issue is a serious one for the community; and I would beg those who are disposed to declaim against vivisection, not to rush into so doing without weighing the consequences; not to rely upon hearsay, but to take some pains to make themselves really acquainted with the history of physiology and the writings of physiologists. The more they do this, the more clearly will they see that our knowledge of the functions of the several parts of the human body has been chiefly derived through vivisection of animals; and the more will they be convinced, however unwilling they may be to admit it, that we are in great measure dependent upon that source for further information in the same direction."

PUBLICATIONS

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